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2005 MICHIGAN BLACK BEAR HUNTER SURVEY

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ABSTRACT

A random sample of bear hunters was contacted after the 2005 hunting season to determine hunter participation, hunting methods, bear harvest, and hunter satisfaction. In 2005, an estimated 8,900 hunters spent nearly 62,000 days afield and harvested about 2,200 bears; nearly unchanged from 2004. Statewide, 25% of hunters harvested a bear. Baiting was the most common hunting method used to harvest bears. Statewide, about 50% of hunters rated their hunting experience as very good or good. Also, most hunters (71%) approved of the preference-point system for the distribution of hunting licenses.

INTRODUCTION

Beginning in 1990, the Michigan Department of Natural Resources (DNR) created black bear (*Ursus americanus*) management units and limited the number of bear hunting licenses issued for each unit. Before 1990, an unlimited number of bear licenses were sold, and licenses were valid in all areas open to bear hunting. In 2000, the DNR modified the licensing system by implementing a zone and quota system based on preference-point system for issuing bear hunting licenses. Under this system, hunters received one preference point if they applied for a hunt but were not selected in the drawing. Hunters also could obtain a preference point by completing an application but forgoing the drawing. Applicants with the greatest number of preference points had the greatest chance of being selected for a hunt, except that no more than 2% of the licenses were issued to nonresidents.

In 2005, ten bear management units in Michigan totaling about 31,267 square miles were open for bear hunting (Figure 1). Bear could be hunted September 10-October 26 in most of the Upper Peninsula (UP) units, except the Drummond Management Unit (September 10-16) and

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in the northern Lower Peninsula (LP) units (September 16-22). The Red Oak Management Unit in the LP also had an archery-only hunt during October 7-13. The DNR set license quotas for each management unit and allocated 11,845 licenses among 44,225 eligible applicants using the preference-point system. Licenses were valid on all land ownership types and allowed a hunter to take one bear of either sex, excluding cubs and female bears with cubs. Bear could be harvested with either firearm or archery equipment, except for the special archery-only hunt in the Red Oak Management Unit. Hunters could use bait or dogs to hunt bears (except dogs could not be used during September 10-14 in the UP, except on Drummond Island, and during the archery-only season in the Red Oak Management Unit).

The DNR has the authority and responsibility to protect and manage the wildlife resources of the State of Michigan. Harvest surveys are one of the management tools used by the Wildlife Division to accomplish its statutory responsibility. Estimating harvest, hunting effort, and hunter satisfaction are among the primary objectives of these surveys. Estimates derived from harvest surveys, as well as harvest reported by hunters at mandatory registration stations and other indices, are used to monitor bear populations and establish harvest regulations.

METHODS

Following the 2005 bear hunting season, a questionnaire (Appendix A) was sent to 3,645 randomly selected successful applicants that had purchased a bear hunting license (resident, senior, nonresident bear licenses, and comprehensive lifetime license). Hunters receiving the questionnaire were asked to report whether they hunted, number of days spent afield, whether they harvested a bear, date of harvest, and their hunting methods. Hunters also reported whether other hunters caused interference during their hunt and whether the interference was caused by other bear hunters. Successful hunters were asked to report harvest date, sex of the bear taken, and harvest method. All hunters were asked to rate their overall hunting experience and indicate whether they approved of the preference-point system used to distribute hunting licenses. Finally, all hunters were asked what factors were important for selecting their hunting location.

Estimates were based on information collected from random samples of hunting license buyers. Thus, these estimates were subject to sampling errors (Cochran 1977). Estimates were calculated using a stratified random sampling design (Cochran 1977) and were presented along with their 95% confidence limit (CL). The statewide estimate of the mean number of days required to harvest a bear was calculated using a different ratio for each stratum (i.e., separate ratio estimator). The number of bears registered in each stratum was used as an auxiliary variate to improve the precision of ratio estimates (Cochran 1977).

In theory, the confidence limit can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies that the true value would be within this interval 95 times out of 100. Unfortunately, there are several other possible sources of error in surveys that are probably more serious than theoretical calculations of sampling error. They include failure of participants to provide answers (nonresponse bias), question wording, and question order. It is

very difficult to measure these biases; thus, estimates were not adjusted for these possible biases.

Statistical tests are used routinely to determine the likelihood that the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating that the difference between the means was larger than would be expected 995 out of 1,000 times, if the study had been repeated (Payton et al. 2003).

Questionnaires were mailed initially during early November 2005, and up to two follow-up questionnaires were mailed to nonrespondents. Although 3,645 people were sent the questionnaire, 48 surveys were undeliverable, resulting in an adjusted sample size of 3,597. Questionnaires were returned by 2,985 people, yielding an 83% adjusted response rate.

RESULTS

In 2005, 9,462 bear hunting licenses were purchased, an increase of nearly 2% from 2004 (Table 1). Most of the people buying a license were men (92%), and the average age of the license buyers was 45 years (Figure 2). About 3% of the license buyers (241) were younger than 17 years old.

Nearly 94% (±1%) of the license buyers hunted bear (Table 2). These hunters spent 61,979 days afield ($\bar{x}$ = 7.0 days/hunter) and harvested 2,210 bears. Harvest was nearly unchanged from the previous year (Figure 3). Counties having the highest number of bear hunters and bears harvested included Marquette, Menominee, and Ontonagon (Table 3).

The average number of days required to harvest a bear statewide was 28 days in 2005 (Table 4), which was nearly unchanged from 2004. Mean effort per harvested bear has generally increased statewide since the early 1990s (Figure 4). However, hunting seasons have been lengthened and hunt periods and areas have been added since 1992; therefore, these annual estimates are not directly comparable. In 1994, most early hunt periods were increased from 37 to 42 days and a third hunt period was added in Gwinn. In 1995, a third hunt period was added in the Baraga Unit. In 1996, Baldwin and Gladwin units were created, and a third period was added to Bergland, Amasa, Carney, and Newberry units. In 2002, the units in the LP were expanded slightly to coincide with county boundaries. In 2004, the area of the Bladwin Unit was increased slightly with the addition of Leelanau County. The units having the highest and lowest effort per harvested bear have generally been Gladwin and Drummond units, respectively (Table 4, Figure 5).

About 35% of the bear hunters hunted on private lands only, 45% hunted on public lands only, and 19% hunted on both private and public lands (Table 5). Bear hunters spent 20,487 days afield on private land, 28,065 days hunting on public land only, and 12,854 days hunting on both private and public lands (Table 6). Of the estimated 2,210 bear harvested in 2005, 40 ± 3% of these bears were taken on private land (895 ± 141). About 59 ± 3% of the harvest (1,295 ± 141) were taken on public land. A few bear (21 ± 25) were harvested from land of unknown ownership.

For bears that the harvest date was reported, about 48% of these bears were taken during the first ten days of the hunting season (September 10-19; Figure 6). Of the bears harvested, 63% (±3%) were males (1,384 ± 142) and 36% (±3%) were females (801 ± 141; Table 7). Statewide, 25% of hunters harvested a bear in 2005 (Table 2), unchanged from last year (Frawley 2005). Hunter success ranged from 10-65% among the bear management units (Table 2).

Most hunters (75 ± 1%) used only firearms while hunting bear, although 24 ± 1% of the hunters used archery equipment only or a combination of firearm and archery equipment (Table 8). Most hunters (87 ± 2%) used a firearm to harvest their bear, while 12 ± 2% used a bow. The weapon used to harvest 1% of the bears was unknown. Most hunters (84 ± 1%) relied primarily on baiting as a means of locating and attracting bears (Table 9). About 11% (±1%) of hunters relied primarily on dogs alone or in combination with baiting to locate bears. About 2% of hunters relied on a hunting method not involving dogs or bait.

About 79% (±3%) of the harvested bears were taken with the aid of bait only (Table 10). The proportion of bears harvested with bait was similar to the proportion of hunters using bait as their primary means of locating bears (79% versus 84%; Tables 9 and 10). Although 11% of the hunters used dogs to locate bears, 19% (±3%) of the harvested bears were taken using dogs. Hunting success for hunters using dogs was 34 ± 4% in 2005, while hunting success for hunters using bait only was 24 ± 2%.

Statewide, about 50 (± 2%) of hunters rated their hunting experiences as very good or good and 25% (±1%) rated their hunting experiences as being poor or very poor (Tables 3 and 11). Hunter satisfaction is affected by many factors such as hunting success and whether hunting activities were completed without interference (Figure 7). In 2005, 24% (±1%) of the hunters (2,131 ± 122) were interfered with by other hunters. Most of this interference was caused by another bear hunter; 19% (±1%) of the hunters (1,678 ± 113) reported that other bear hunters interfered with their hunt. Generally, hunters in the UP were less likely to be interfered with by other hunters than hunters in the LP (Tables 3 and 11, Figure 8).

In 2000, a preference-point system was implemented for distributing bear hunting licenses. Hunters were asked whether they approved of this distribution system. Most hunters (71 ± 1%) approved or strongly approved of the system. About 16% (±1%) of the hunters indicated that they were not sure about the system, and 11% (±1%) disapproved or strongly disapproved of the system.

Bear hunters were asked which reasons were important for selecting their hunting location (Figure 9). Hunters most frequently cited high bear density as the most important factor used to select their hunting area (66 $\pm$ 2%). Hunting an area where they experienced low hunting pressure (58 $\pm$ 2%), hunting in a traditional hunting area (54 $\pm$ 2%), and hunting where there were large amounts of public lands (53 $\pm$ 2%) were the next most important reasons to select an area.

ACKNOWLEDGEMENTS

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Frawley, B. J., 2005. 2004 Michigan black bear hunter survey. Wildlife Division Report 3413. Michigan Department of Natural Resources, Lansing, USA.

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Figure 1. Bear management units open to hunting in Michigan, 2005.

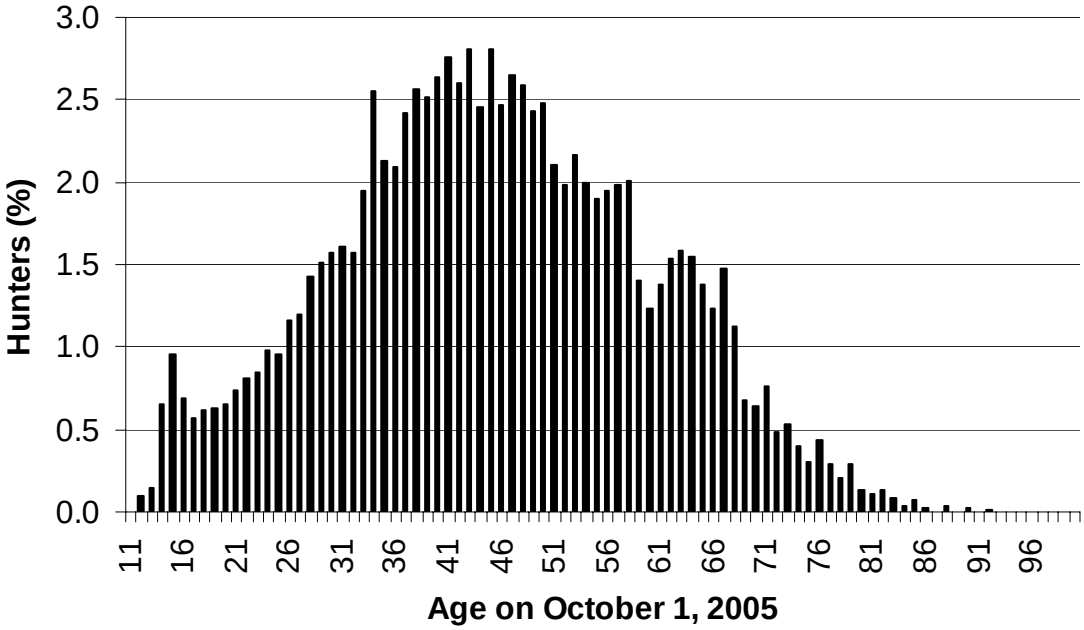


Figure 2. Age of people that purchased a bear hunting license in Michigan for the 2005 hunting season ($\bar{x}$ = 45 years). Licenses were purchased by 9,462 people.

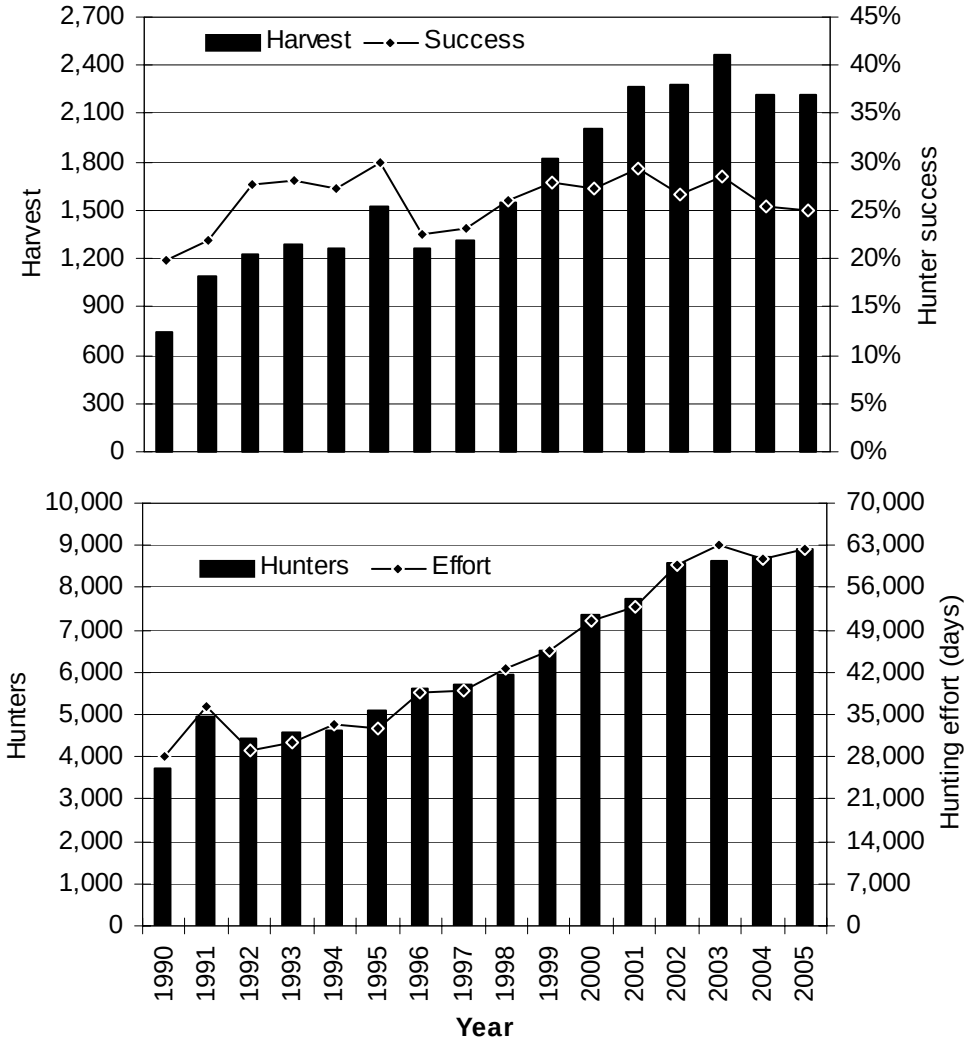


Figure 3. Estimated harvest , hunting success, number of hunters, and hunting effort during bear hunting seasons, 1990-2005.

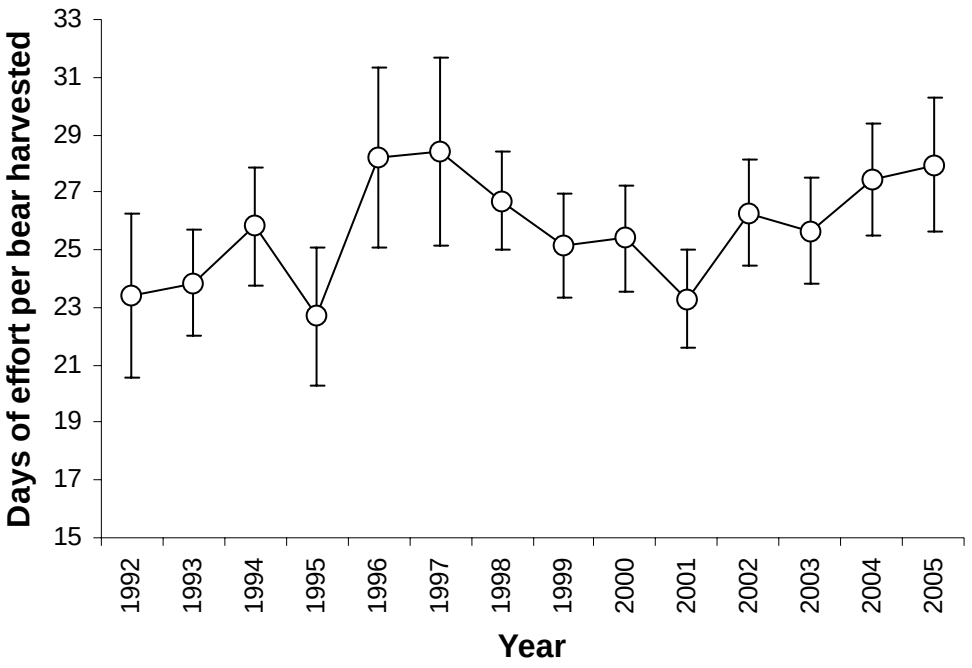


Figure 4. Estimated mean number of days required to harvest a bear statewide in Michigan during 1992-2005. Vertical bars represent the 95% confidence interval.

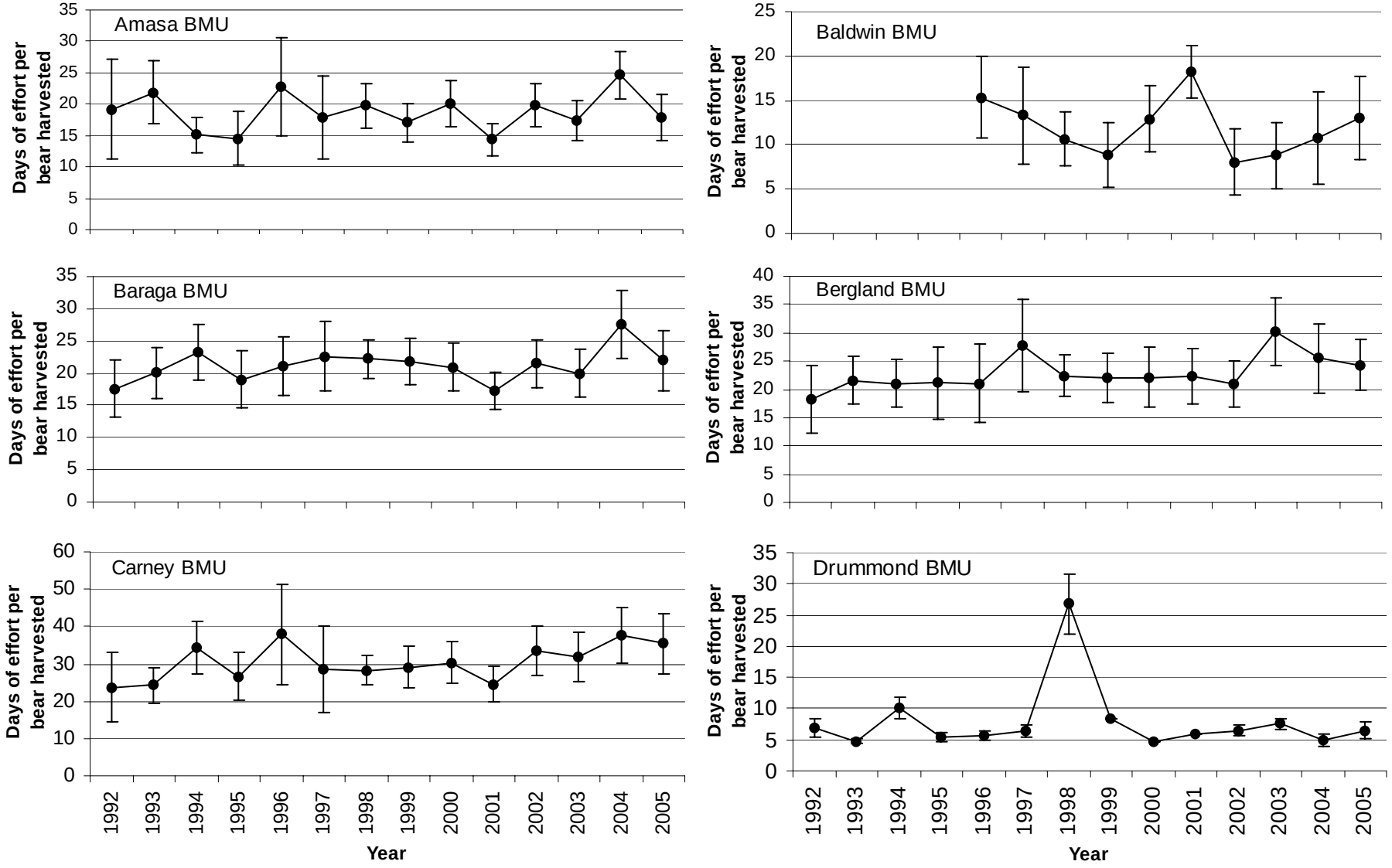


Figure 5. Estimated mean number of days required to harvest a bear in Michigan during 1992-2005, summarized by management unit. Baldwin and Gladwin management units were created in 1996. Vertical bars represent the 95% confidence interval.

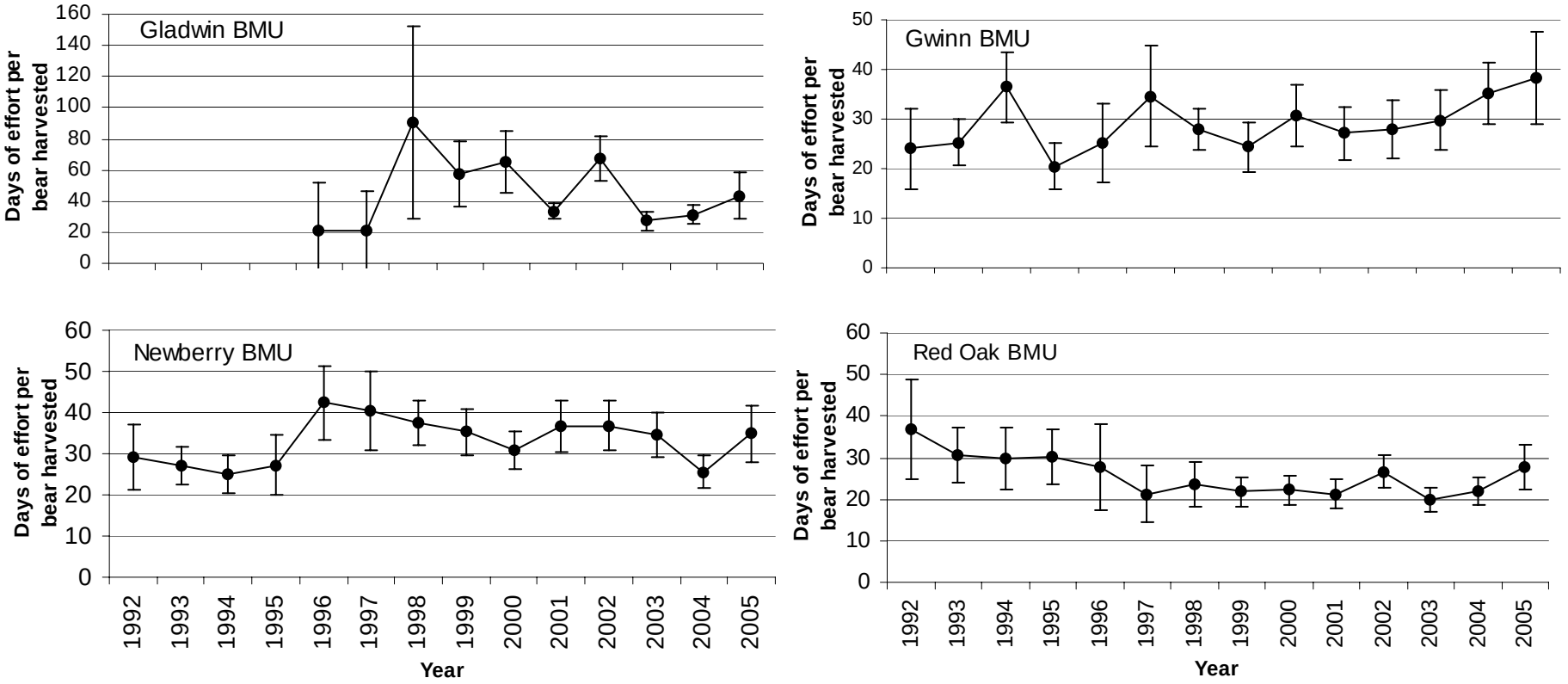


Figure 5 (continued). Estimated mean number of days required to harvest a bear in Michigan during 1992-2005, summarized by management unit. Baldwin and Gladwin management units were created in 1996. Vertical bars represent the 95% confidence interval.

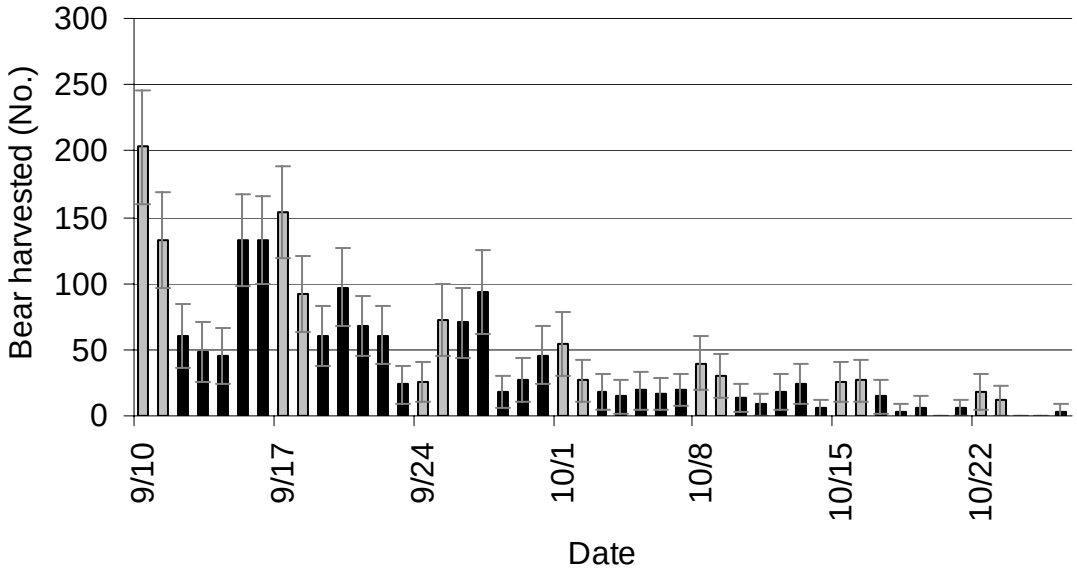


Figure 6. Estimated number of bear harvested by date during the 2005 bear hunting season (includes all hunt periods). An additional 123 ± 34 bear were taken on unknown dates. Gray-shaded bars indicate weekends. Vertical bars represent the 95% confidence interval. The opening of the bear hunting season was September 10 in the UP and September 16 in the LP.

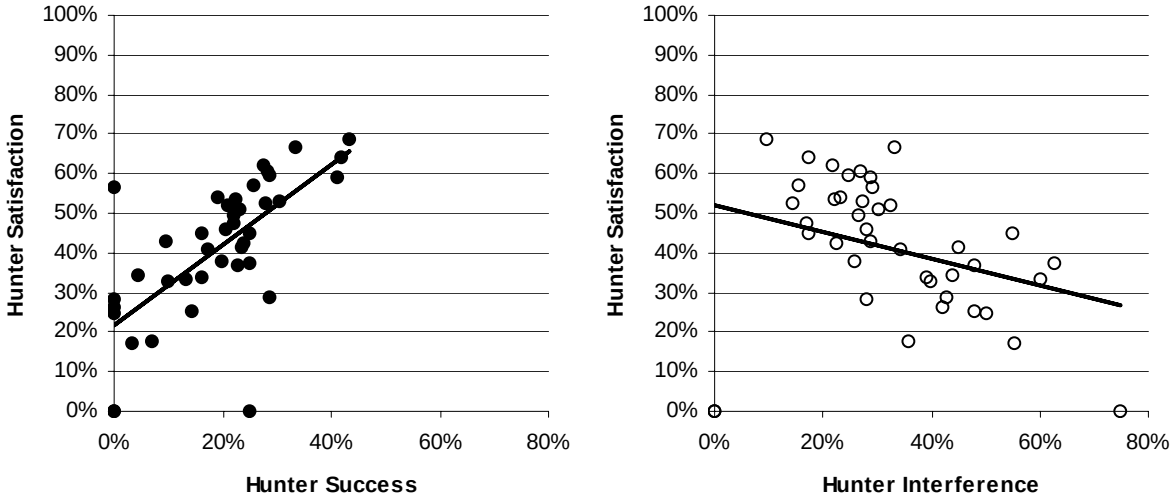


Figure 7. Hunter satisfaction (hunters rating their hunting experience as very good or good) relative to hunter success and hunter interference for each of 42 counties in Michigan during the 2005 bear hunting season. Interference was the proportion of hunters that reported interference from other hunters (all types of hunters).

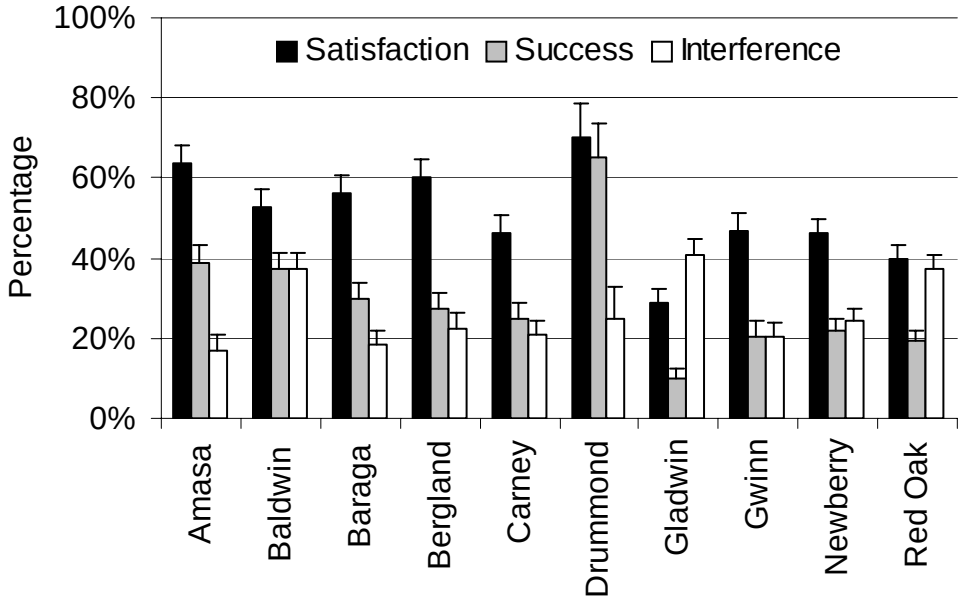


Figure 8. Estimated hunter satisfaction, hunting success, and level of hunter interference in Michigan's management units during the 2005 bear hunting season. Satisfaction measures the proportion of hunters rating their hunting experiences as very good or good. Error bars represent the 95% confidence limit. Interference was the proportion of hunters that reported interference from other hunters (all types of hunters).

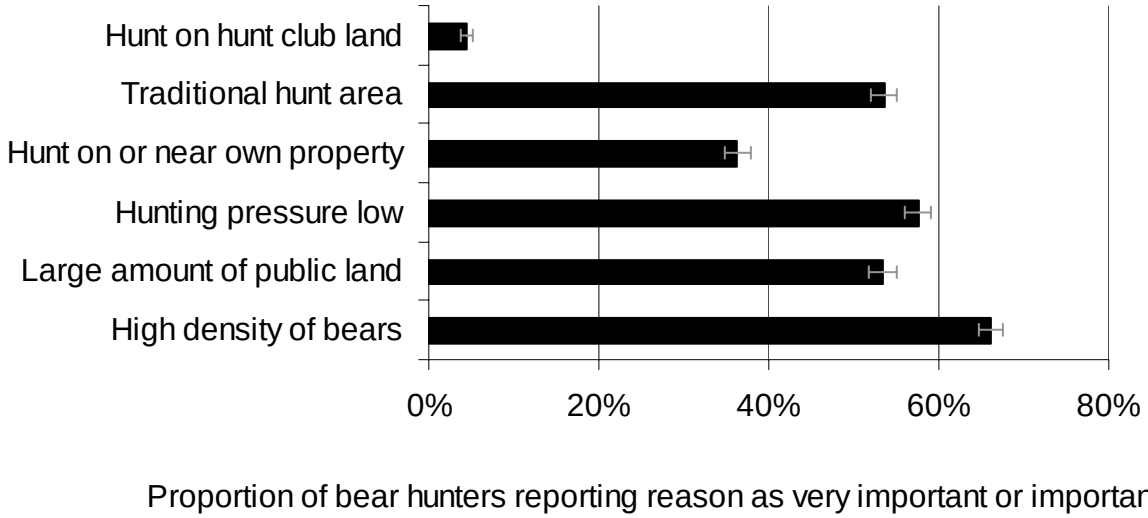


Figure 9. Reasons bear hunters cited as important factors in selecting their bear hunting location in Michigan during the 2005 bear hunting season. Error bars represent the 95% confidence limit.

Table 1. Number of people purchasing hunting licenses for the 2005 Michigan bear hunting seasons.

Management unit	Licenses available (quota)	Number of eligible applicants	Licenses sold[a]
Amasa	590	2,597	519
Baldwin	60	2,196	57
Baraga	2,410	5,753	1,866
Bergland	1,620	2,887	1,224
Carney	1,380	2,913	1,082
Drummond	25	503	24
Gladwin	150	1006	127
Gwinn	1,430	4,100	1,113
Newberry	2,480	9,847	1,980
Red Oak	1,700	12,423	1,470
Statewide	11,845	44,225	9,462
Applicants opting for Preference Point[b]		12,815	

[a]Fewer licenses were sold than the number available because some successful applicants failed to purchase a license.
[b]Applicants that chose to receive a preference point rather than enter into the drawing for a hunting license.

Table 2. Estimated number of hunters, harvest, hunter success, and hunting effort during the 2005 Michigan bear hunting season.

Management unit	Hunters		Harvest		Hunter success		Hunting effort		Days hunted per hunter ($\bar{x}$)	
	No.	95% CL[a]	No.	95% CL[a]	%	95% CL[a]	Days	95% CL[a]	Days	95% CL[a]
Amasa	477	13	185	23	39	5	3,314	336	6.9	0.6
Baldwin	56	1	21	2	37	4	272	11	4.9	0.2
Baraga	1,773	35	530	73	30	4	11,680	910	6.6	0.5
Bergland	1,125	29	305	46	27	4	7,426	564	6.6	0.5
Carney	1,035	19	259	41	25	4	9,188	765	8.9	0.7
Drummond	24	<1	16	2	65	9	101	10	4.2	0.4
Gladwin	119	2	12	3	10	2	513	23	4.3	0.2
Gwinn	1,011	29	207	39	21	4	7,933	659	7.8	0.6
Newberry	1,861	32	405	55	22	3	14,088	926	7.6	0.5
Red Oak	1,392	22	270	38	19	3	7,465	360	5.4	0.2
Statewide[b]	8,872	71	2,210	125	25	1	61,979	1,808	7.0	0.2

[a] 95% confidence limits.

[b] Column totals may not equal statewide totals because of rounding.

Table 3. Estimated number of hunters, harvest, hunter success, hunting effort, hunter satisfaction, and hunt interference during the 2005 Michigan bear hunting season.

	Hunters[a]		Harvest[a]		Hunter success		Hunting effort (days)[a]		Hunter satisfaction[b]		Interfered hunters[c]	
County	Total	95% CL	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL	%	95% CL
Alcona	198	33	56	19	28	8	903	191	61	9	27	8
Alger	258	46	57	23	22	8	2,016	485	53	9	22	8
Alpena	176	32	35	15	20	8	845	176	38	9	26	8
Antrim	21	12	0	0	0	0	139	88	25	24	50	27
Arenac	1	1	0	0	0	0	7	6	0	0	0	0
Baraga	340	62	88	33	26	9	2,226	549	57	10	15	7
Benzie	3	1	1	1	33	16	20	6	67	16	33	16
Charlevoix	11	8	3	4	25	34	61	48	0	0	75	34
Cheboygan	124	28	21	12	17	9	686	187	41	11	34	11
Chippewa	441	55	90	26	20	5	3,057	567	46	7	28	6
Clare	33	4	2	1	7	4	118	18	18	6	36	7
Crawford	78	22	3	4	3	5	425	139	17	11	55	14
Delta	460	56	101	29	22	6	3,609	620	47	7	17	5
Dickinson	383	51	73	24	19	6	3,065	536	54	7	23	6
Emmet	40	16	5	6	13	14	174	84	33	19	60	20
Gladwin	27	5	1	1	4	3	119	20	34	10	44	9
Gogebic	469	52	129	33	28	6	3,127	504	62	7	22	6

[a]Number of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.
[b]Proportion of hunters that rated their hunting experience as very good or good.
[c]Proportion of hunters that indicated that they experienced interference from other hunters (all types of hunters).

Table 3 (continued). Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunt interference during the 2005 Michigan bear hunting season.

	Hunters[a]		Harvest[a]		Hunter success		Hunting effort (days)[a]		Hunter satisfaction[b]		Interfered hunters[c]	
County	Total	95% CL	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL	%	95% CL
Gd. Traverse	0	0	0	0			0	0				
Houghton	344	62	105	37	30	9	2,204	529	53	10	27	9
Iosco	24	4	6	2	25	8	104	19	45	9	55	9
Iron	315	25	132	21	42	6	2,326	347	64	6	17	5
Kalkaska	81	22	8	7	10	8	469	157	33	13	40	14
Keweenaw	194	49	84	34	43	13	1,135	389	69	12	10	8
Lake	27	8	7	1	25	9	117	45	37	12	63	12
Leelanau	3	6	0	0	0		0	0	0	0	0	0
Luce	486	58	78	26	16	5	3,410	549	45	7	17	5
Mackinac	292	48	68	25	23	8	2,269	551	51	9	30	8
Manistee	8	6	0	0	0	0	32	29	28	22	28	22
Marquette	700	75	196	45	28	6	4,662	673	53	6	15	4
Menominee	658	47	158	34	24	5	5,622	718	42	6	23	5
Missaukee	94	24	13	9	14	9	462	140	25	11	48	13
Montmorency	150	30	24	12	16	8	884	207	34	10	39	10
Newaygo	8	2	2	1	29	10	36	8	29	10	43	11
Ogemaw	23	4	0	0	0	0	109	19	26	8	42	9

[a]Number of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.
[b]Proportion of hunters that rated their hunting experience as very good or good.
[c]Proportion of hunters that indicated that they experienced interference from other hunters (all types of hunters).

Table 3 (continued). Estimated number of hunters, hunting effort, harvest, hunter success, hunter satisfaction, and hunt interference during the 2005 Michigan bear hunting season.

	Hunters[a]		Harvest[a]		Hunter success		Hunting effort (days)[a]		Hunter satisfaction[b]		Interfered hunters[c]	
County	Total	95% CL	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL	%	95% CL
Ontonagon	638	69	183	42	29	6	4,391	703	60	6	25	6
Osceola	8	5	0	0	0	0	41	27	56	31	29	22
Oscoda	95	24	21	12	23	11	414	122	37	13	48	13
Otsego	56	19	5	6	10	10	230	86	43	17	29	15
Presque Isle	140	29	29	14	21	9	702	172	52	11	33	10
Roscommon	160	30	37	15	23	8	855	198	42	10	45	10
Schoolcraft	399	55	88	28	22	6	2,819	518	49	8	27	7
Wexford	27	5	11	2	41	8	104	23	59	8	29	7
Unknown	1,406	107	287	54	20	3	7,980	804	50	4	24	4

[a]Number of hunters does not add up to statewide total because hunters can hunt in more than one county. Column totals for hunting effort and harvest may not equal statewide totals because of rounding errors.
[b]Proportion of hunters that rated their hunting experience as very good or good.
[c]Proportion of hunters that indicated that they experienced interference from other hunters (all types of hunters).

Table 4. Estimated mean number of days required to harvest a bear in Michigan during 1992-2005, summarized by management unit.

	Year													
	1992		1993		1994		1995		1996		1997		1998	
Manage-ment unit	Mean	95% CL[a]	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL
Amasa	19.1	7.9	21.9	4.9	15.2	2.8	14.6	4.3	22.8	7.8	18.0	6.6	19.7	3.6
Baldwin[b]									15.3	5.1	13.3	7.3	10.6	2.2
Baraga	17.6	4.4	20.1	3.9	23.4	4.3	19.0	4.5	21.1	4.6	22.7	5.4	22.2	3.0
Bergland	18.2	6.0	21.6	4.2	21.1	4.2	21.1	6.4	21.0	7.0	27.7	8.2	22.4	3.7
Carney	23.8	9.3	24.3	4.7	34.4	6.9	26.7	6.3	37.9	13.4	28.5	11.6	28.3	4.0
Drummond	7.0	1.5	4.8	0.3	10.1	1.7	5.5	0.7	5.6	0.7	6.3	1.0	26.8	4.8
Gladwin[b]									21.4	30.2	21.2	25.4	90.5	61.4
Gwinn	24.1	8.1	25.3	4.7	36.4	7.0	20.4	4.7	25.1	8.0	34.6	10.0	27.9	4.0
Newberry	29.2	7.9	27.2	4.5	24.9	4.5	27.3	7.2	42.3	9.1	40.3	9.7	37.4	5.5
Red Oak	36.9	12.0	30.6	6.6	29.9	7.4	30.1	6.6	27.7	10.5	21.3	6.8	23.6	5.2
Statewide	23.4	2.9	23.8	1.8	25.8	2.0	22.7	2.4	28.2	3.1	28.4	3.2	26.7	1.7

[a] 95% confidence limits.
[b]Management unit created in 1996.

Table 4 (continued). Estimated mean number of days required to harvest a bear in Michigan during 1992-2005, summarized by management unit.

Management unit	Year													
	1999		2000		2001		2002		2003		2004		2005	
	Mean	95% CL[a]	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL	Mean	95% CL
Amasa	17.0	3.1	20.0	3.6	14.3	2.6	19.8	3.4	17.3	3.2	24.6	3.9	17.9	3.7
Baldwin[b]	8.8	1.0	12.9	2.4	18.3	5.8	8.0	0.8	8.8	1.1	10.8	1.4	13.1	1.7
Baraga	21.8	3.6	21.0	3.7	17.3	2.9	21.5	3.8	20.0	3.8	27.5	5.2	22.0	4.7
Bergland	22.0	4.3	22.2	5.4	22.3	4.9	20.8	4.1	30.2	6.1	25.5	6.1	24.3	4.4
Carney	29.1	5.6	30.4	5.8	24.5	4.7	33.5	6.6	32.0	6.7	37.7	7.6	35.4	8.1
Drummond	8.5	<0.1	4.6	<0.1	5.9	<0.1	6.5	0.9	7.5	0.9	4.8	1.0	6.5	1.4
Gladwin	57.6	21.2	65.2	20.0	33.3	4.9	67.4	14.2	27.2	6.5	31.2	6.3	43.2	15.0
Gwinn	24.4	5.0	30.8	6.2	27.1	5.3	28.0	5.9	29.8	5.9	35.2	6.3	38.2	9.4
Newberry	35.4	5.6	30.9	4.6	36.6	6.3	36.7	6.1	34.6	5.6	25.6	3.9	34.8	6.8
Red Oak	21.7	3.6	22.3	3.5	21.3	3.4	26.7	3.8	19.9	2.8	21.8	3.3	27.7	5.4
Statewide	25.1	1.8	25.4	1.9	23.3	1.7	26.3	1.8	25.6	1.8	27.4	2.0	28.0	2.3

[a] 95% confidence limits.

Table 5. Estimated number and proportion of hunters hunting on private and public lands during the 2005 bear hunting season.

Management unit	Private land only				Public land only				Both private and public lands				Unknown land			
	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL	Total	95% CL	%	95% CL
Amasa	167	23	35	5	209	24	44	5	95	20	20	4	7	6	1	1
Baldwin	11	2	20	3	25	2	45	4	20	2	35	4	0	0	0	0
Baraga	489	72	28	4	866	81	49	4	382	67	22	4	37	23	2	1
Bergland	219	42	20	4	669	53	59	4	216	42	19	4	21	14	2	1
Carney	560	47	54	4	234	40	23	4	240	40	23	4	0	0	0	0
Drummond	5	2	20	7	8	2	35	9	11	2	45	9	0	0	0	0
Gladwin	51	5	43	4	56	5	47	4	12	3	10	2	0	0	0	0
Gwinn	375	48	37	5	441	49	44	5	178	38	18	4	16	13	2	1
Newberry	568	62	31	3	915	68	49	4	357	53	19	3	20	14	1	1
Red Oak	687	49	49	3	529	47	38	3	155	31	11	2	21	12	2	1
Statewide	3,132	136	35	1	3,952	144	45	2	1,665	116	19	1	123	36	1	<1

Table 6. Estimated number of days of hunting effort on private and public lands during the 2005 Michigan bear hunting season.

Management unit	Private lands		Public lands		Both private and public lands		Unknown	
	Total	95% CL	Total	95% CL	Total	95% CL	Total	95% CL
Amasa	1,084	240	1,469	286	741	220	20	22
Baldwin	64	11	123	12	86	12	0	0
Baraga	3,067	627	5,849	847	2,597	608	168	128
Bergland	1,293	332	4,416	536	1,653	433	65	65
Carney	4,689	639	2,243	546	2,256	532	0	0
Drummond	16	7	30	9	55	13	0	0
Gladwin	216	23	248	26	49	14	0	0
Gwinn	2,671	479	3,540	593	1,548	440	175	194
Newberry	3,912	621	7,138	842	2,973	606	65	88
Red Oak	3,477	320	3,009	349	898	229	80	58
Statewide[a]	20,487	1,299	28,065	1,602	12,854	1,226	572	265

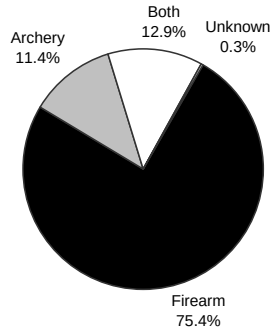
[a]Column totals may not equal statewide totals because of rounding errors.

Table 7. Number of applicants, licenses sold, and estimated number of hunters, harvest, hunting effort (days), and hunting success during Michigan bear hunting season, 1999-2005.

	Year						
Region	1999	2000	2001	2002	2003	2004	2005
Upper Peninsula							
Applicants	26,833	31,277	31,666	29,112	27,344	28,295	28,600
Licenses sold	5,818	6,786	8,337	7,393	7,453	7,558	7,808
Hunters	5,511	6,308	6,492	6,949	6,939	7,062	7,305
Harvest	1,590	1,781	1,990	1,962	2,026	1,834	1,908
Males (%)	65	58	59	62	62	63	63
Females (%)	34	40	39	37	38	36	36
Unknown (%)	1	2	2	1	1	1	1
Hunter-days	40,452	45,403	46,719	51,452	54,333	52,158	53,729
Hunter success (%)	29	28	31	28	29	26	26
Lower Peninsula							
Applicants	11,073	13,887	14,674	14,370	14,297	15,616	15,625
Licenses sold	1,062	1,113	1,544	1,711	1,761	1,737	1,654
Hunters	1,005	1,058	1,247	1,626	1,695	1,653	1,567
Harvest	227	230	279	320	439	388	303
Males (%)	64	57	55	70	52	61	58
Females (%)	36	41	45	29	47	38	39
Unknown (%)	0	2	0	1	1	1	3
Hunter-days	5,069	5,259	6,204	8,465	8,592	8,451	8,250
Hunter success (%)	23	22	22	20	26	23	19
Statewide	37,906	45,164	46,340	43,482	41,641	43,911	44,225
Applicants[a]	37,906	48,696	53,179	51,686	50,908	54,831	57,040
Licenses sold	6,880	7,899	9,881	9,104	9,214	9,295	9,462
Hunters	6,516	7,365	7,739	8,575	8,634	8,714	8,872
Harvest	1,817	2,011	2,268	2,282	2,465	2,221	2,210
Males (%)	65	58	58	63	60	62	63
Females (%)	34	40	40	36	39	36	36
Unknown (%)	1	2	2	1	1	1	1
Hunter-days	45,521	50,664	52,923	59,917	62,925	60,609	61,979
Hunter success (%)	28	27	29	27	29	25	25

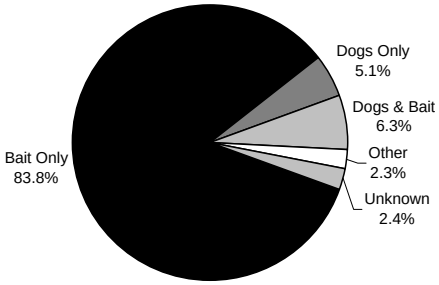
[a]Beginning in 2000, the number of applicants statewide also included people that applied for a preference point.

Table 8. Hunting equipment used to hunt bear in Michigan, 2005.

Equipment	Number of hunters	95% CL[a]	Equipment used (%)
Firearm	6,690	125	
Archery	1,014	95	
Both firearm and archery	1,141	94	
Unknown	28	17	

[a]95% confidence limits.

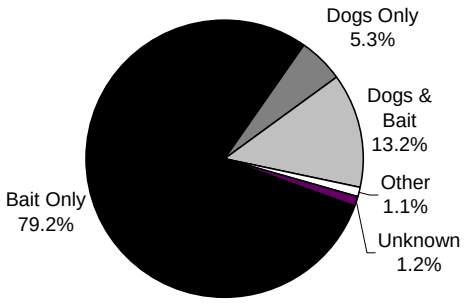
Table 9. Primary hunting methods used to hunt bear in Michigan, 2005.

Method	Number of hunters	95% CL[a]	Method used (%)
Bait only	7,438	108	
Dogs only	454	65	
Dogs and bait	557	72	
Other	208	42	
Unknown	215	45	

[a]95% confidence limits.

Table 10. Hunting methods used to harvest bear in Michigan, 2005.

Method	Number of hunters	95% CL[a]	Method used (%)
Bait only	1,750	118	
Dogs only	118	66	
Dogs and bait	292	97	
Other	25	29	
Unknown	26	33	



[a]95% confidence limits.

Table 11. Level of hunter success, interference, and satisfaction of bear hunters with their hunting experience in Michigan during the 2005 season.

Manage-ment unit	Hunter success (%)	Hunters interfered by other hunters (%)[a]	Hunters interfered by other bear hunters (%)	Satisfaction level (%)					
				Very good	Good	Neutral	Poor	Very poor	No answer
Amasa	39	17	13	34	29	19	12	4	2
Baldwin	37	37	25	27	25	18	24	6	0
Baraga	30	19	15	25	31	22	13	8	2
Bergland	27	23	19	20	40	24	8	6	2
Carney	25	21	15	18	28	25	17	9	2
Drummond	65	25	25	30	40	25	0	5	0
Gladwin	10	41	17	10	19	35	19	13	4
Gwinn	21	20	16	13	34	25	18	8	2
Newberry	22	24	19	13	33	22	20	11	2
Red Oak	19	37	30	14	26	22	18	18	2
Statewide	25	24	19	18	32	23	15	10	2

[a]Includes all types of hunters.

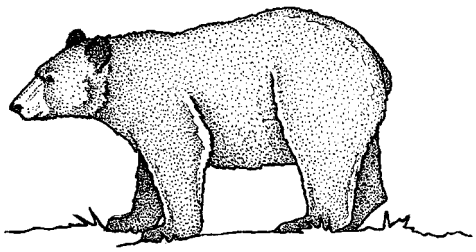
Appendix A

2005 Michigan Bear Harvest Questionnaire

MICHIGAN DEPARTMENT OF NATURAL RESOURCES – WILDLIFE
PO BOX 30030 LANSING MI 48909-7530

2005 MICHIGAN BEAR HARVEST REPORT

This information is requested under authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



It is important that you complete and return this report even if you did not hunt or harvest a bear.

1. Did you hunt bear in Michigan during the 2005 season?

   [1] ☐ Yes [2] ☐ No; skip to question 11 on the reverse side

2. Please report the number of days for each county that you hunted bear in the following table.

COUNTY HUNTED (*List each county that you hunted for bear*)	**NUMBER OF DAYS HUNTED**	**TYPE OF LAND**
		[1] ☐ Private [2] ☐ Public [3] ☐ Both
		[1] ☐ Private [2] ☐ Public [3] ☐ Both
		[1] ☐ Private [2] ☐ Public [3] ☐ Both
		[1] ☐ Private [2] ☐ Public [3] ☐ Both
		[1] ☐ Private [2] ☐ Public [3] ☐ Both

3. Did you hunt with a firearm or a bow during the 2005 bear season?

   [1] ☐ Firearm [2] ☐ Bow [3] ☐ Both

4. What hunting method did you most often use when hunting bear in Michigan during the 2005 bear season? (*please select only one item*)

   [1] ☐ Hunted over bait only
   [2] ☐ Used dogs only (bait not used)
   [3] ☐ Used dogs started over bait
   [4] ☐ Used other methods not involving dogs or bait

5. Was your harvest tag put on a bear? (*If no, please skip to question 7*)

   [1] ☐ Yes [2] ☐ No

Please continue on back

6. If your harvest tag was put on a bear, please fill in the information below

a. What date was the bear harvested?
(*please check [X] the box for the date of harvest*)

September 2005						
S	M	T	W	T	F	S
						10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October 2005						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26			

b. What was the sex of the bear? [1] ☐ Male [2] ☐ Female [3] ☐ Not sure

c. In what county was it harvested?
(*please write in the county name*)

d. On what type of land was the bear harvested? [1] ☐ Private [2] ☐ Public

e. What type of weapon was used to harvest bear? [1] ☐ Firearm [2] ☐ Bow

f. What was the method of harvest? [1] ☐ Taken over bait [2] ☐ Used dogs (bait not used) [3] ☐ Used dogs started over bait [4] ☐ Used other methods not involving dogs or bait

7. Did other hunters interfere with your bear hunting? [1] ☐ Yes [2] ☐ No *(skip to question 9)*

8. If you answered "yes" to the previous question, was the interference caused by other bear hunters? [1] ☐ Yes [2] ☐ No

9. Overall, how would you rate your 2005 bear hunting experiences?

[1] ☐ Very Good [2] ☐ Good [3] ☐ Neutral [4] ☐ Poor [5] ☐ Very Poor

10. How important were the following factors for selecting the location where you hunted bear in 2005?

	Very Important	Important	Slightly Important	Not Important	Not Sure
A. The area had a high density of bears.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
B. The area had a large amount of public land or commercial forest.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
C. Hunting pressure was low.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
D. I owned the property where I hunted or it was near my property.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
E. I have traditionally hunted this area.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
F. I hunted property owned by a hunt club in this area.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

11. In 2000, a preference point system was implemented for distributing bear hunting licenses in Michigan. Which of the following best describes your opinion about the system?
(*please select one choice*)

[1] ☐ Strongly Approve [2] ☐ Approve [3] ☐ Not Sure [4] ☐ Disapprove [5] ☐ Strongly Disapprove

Return the completed report in the enclosed postage-paid envelope. Thanks for your help.